What Is Claimed Is:

1   1. A method for generating error detection code of a data
2 sector with sector data information and main data, comprising
3 the following steps:
4   generating a first error detection code according to the
5   main data;
6   generating a second error detection code according to the
7   sector data information; and
8   generating the error detection code by operating the first
9   error detection code and the second detection code;
10   wherein the first error detection code is generated when
11   the main data is read from a host.

1   2.   The method as claimed in claim 1, wherein the error
2 detection code is generated by performing exclusive-OR
3 operation of the first error detection code and the second error
4 detection code.

1   3.   The method as claimed in claim 1, wherein the sector
2 data information is substituted by zero when generating the
3 first error detection code.

1   4.   The method as claimed in claim 1, wherein the main data
2 is substituted by zero when generating the second error
3 detection code.

1   5.   The method as claimed in claim 1, wherein the sector
2 data information comprises identification data (ID), ID error
3 correction code (IED), and reserve data (RSV).

1   6.   A method for generating error detection code of a data

2   sector with sector data information and main data, comprising

3   the following steps:

4   generating a first error detection code according to the

5   sector data information and the main data, wherein

6   the sector data information is substituted by a first

7   substitutional value;

8   generating a second error detection code according to the

9   sector data information and the main data, wherein

10   the main data is substituted by a second

11   substitutional value; and

12   generating error detection code by operating the first

13   error detection code, the second detection code and

14   a correction constant, wherein the correction

15   constant is derived depending on the first

16   substitutional value and the second substitutional

17   value;

18   wherein the first error correction code is generated when

19   the main data is read from a host.

1   7.   The method as claimed in claim 6, wherein the error

2   detection code is generated by performing exclusive-OR

3   operation of the first error detection code, the second error

4   detection code and the correction constant.

1   8.   The method as claimed in claim 6, wherein the correct

2   constant is not taken into consideration when the first

3   substitutional value and the second substitutional value are

4   both substituted by zero.

1   9.   The method as claimed in claim 6, wherein the sector

2   data information comprises identification data (ID), ID error

3   correction code (IED), and reserve data (RSV).

1   10.   A method for generating error detection code of a data

2   sector with sector data information and main data, comprising

3   the following steps:

4   generating a first error detection code according to the

5   sector data information and the main data, wherein

6   the sector data information is substituted by a first

7   substitutional value;

8   generating a second error detection code according to the

9   sector data information; and

10   generating error detection code by operating the first

11   error detection code, the second detection code and

12   a correction constant, wherein the correction

13   constant is derived depending on the first

14   substitutional value;

15   wherein the main data is substituted by zero when

16   generating the second error detection code.

1   11.   The method as claimed in claim 10, wherein the first

2   error detection code is generated when the main data is reading

3   from a host.

1   12.   The method as claimed in claim 10, wherein the error

2   detection code is generated by performing exclusive-OR

3   operation of the first error detection code, the second error

4   detection code and the correction constant.

1   13.   The method as claimed in claim 10, wherein a formula
2   is provided to skip considering the following main data when
3   generating the second error detection code.

1   14.   The method as claimed in claim 10, wherein the correct
2   constant is not taken into consideration when the first
3   substitutional value is substituted by zero.

1   15.   The method as claimed in claim10, wherein the sector
2   data information comprises identification data (ID), ID error
3   correction code (IED), and reserve data (RSV).

1   16.   A method for generating error detection code of a
2   plurality of data sector with a plurality of different sector
3   data information and same main data, comprising the following
4   steps:
5   generating a first error detection code according to the
6   same main data, wherein each different sector data
7   information are respectively substituted by a
8   corresponding first substitutional value;
9   generating a plurality of second error detection codes
10   according to each corresponding different sector
11   data information; and
12   generating a plurality of error detection codes by
13   operating the first error detection code, the
14   corresponding plurality of the second error
15   detection codes, and a correction constant;
16   wherein the first error detection code is generated when
17   the main data is read form a host.

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1   17.   The method as claimed in claim 16, wherein the error

2   detection   code   is   generated   by   performing   exclusive-OR

3   operation of the first error detection code, the second error

4   detection code, and the correction constant.

1   18.   The method as claimed in claim 16, wherein the second

2   error detection code is generated only according to each

3   different sector data information by providing a formula to skip

4   considering the following main data.

1   19.   The method as claimed in claim 16, wherein the main

2   data is substituted by a second substitutional value when the

3   second error detection code is generated according to both the

4   corresponding sector data information and the main data.

1   20.   The method as claimed in claim 19, wherein the

2   correction   constant   is   derived   depending   on   the   first

3   substitutional value and the second substitutional value.

1   21.   The method as claimed in claim 20, wherein the correct

2   constant is not taken into consideration when the corresponding

3   first substitutional value and the second substitutional value

4   are both substituted by zero.

1   22.   The method as claimed in claim 16, wherein the sector

2   data information comprising identification data (ID), ID error

3   correction code (IED), and reserve data (RSV).